Homework 34-FORM A
Dividing & Rationalizing Radicals

Name:_____
Period:____ **Date:**_____

* Cannot have a radical in the denominator!

Simplify the following radicals.

1. $\sqrt{\frac{2}{25}} = \frac{\sqrt{2}}{\sqrt{25}}$

2. $\sqrt{\frac{13}{100}} = \frac{\sqrt{13}}{\sqrt{100}}$

3. $\sqrt{\frac{3}{11}} = \frac{\sqrt{3}}{\sqrt{11}}$

4. $\sqrt{\frac{7}{17}} = \frac{\sqrt{7}}{\sqrt{17}}$

5. $\sqrt{\frac{6}{7x^3}} = \frac{\sqrt{6}}{\sqrt{7x^3}} \cdot \frac{\sqrt{7x^3}}{\sqrt{7x^3}} =$

6. $\sqrt{\frac{8x^2}{72}} = \frac{\sqrt{8x^2}}{\sqrt{72}}$ (simplify)

7. $\frac{5}{\sqrt{3x^2}} \cdot \frac{\sqrt{3x^2}}{\sqrt{3x^2}} =$

8. $\frac{3}{\sqrt{2x^3}} \cdot \frac{\sqrt{2x^3}}{\sqrt{2x^3}}$

9. $\frac{\sqrt{6}}{3\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}}$

10. $\frac{\sqrt{3}}{4\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}}$

11. $\frac{3\sqrt{6}}{3\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}}$

12. $\frac{2\sqrt{7}}{3\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}}$

Watch the Kahn Academy video (type this into *"Search for a video or playlist"*):

How to Rationalize a Denominator

Link: www.khanacademy.org/video/how-to-rationalize-a-denominator?playlist=ck12.org+Algebra+1+Examples

Play from **START** until **3:17**. Failure to watch the video and respond in **COMPLETE sentences** will result in LASALLE!

1. Name at least one reason Khan says we "rationalize the denominator."

2. What is "wrong" with the following expression according to Khan?

$$\frac{1}{\sqrt{2}}$$

3. Simplify all of the following expressions.

a. $\frac{9}{9} =$ ___

b. $\frac{100}{100} =$ ___

c. $\frac{-17}{-17} =$ ___

d. $\frac{y}{y} =$ ___

e. $\frac{\sqrt{9}}{\sqrt{9}} =$ ___

f. $\frac{\sqrt{2}}{\sqrt{2}} =$ ___

4. In your calculator, type the following operations, and record answers:

a. $(\sqrt{2})(\sqrt{2}) =$ _____ b. $(\sqrt{3})(\sqrt{3}) =$ _____ c. $(\sqrt{10})(\sqrt{10}) =$ _____

What pattern to you notice?

Follow along with the two examples that Khan provides in rationalizing the denominator. Show all the same work presented in the video.

4.

$$\frac{1}{\sqrt{2}}$$

5.

$$\frac{7}{\sqrt{15}}$$